

Speculum Perspicuum Uranicum:

OR A

GLASSE

Wherein you may behold

The Revolution of the YEAR

of our LORD CHRIST;

M. D. C. LIII.

Being the first after B. H. x. l. e. of leap-year.

SHEWING

All the notable *Aspects* of the

PLANETS with the MOON,

and among themselves.

With the true place of the SUN & MOON,

In Signes, Degrees and Minutes,

For every DAY in the YEAR:

And true place of the other Planets every Fifth day.

Unto which are added some *Astrological*

Predictions gathered from the Quarterly

REVOLUTIONS of *Mercury*, 1653.

Calculated for the Meridian of LONDON

Differs from the Meridian of *Lyons* north 4 Minutes:

Whose Pole-artick is elevated above the Horizon

51 degrees 32 minutes North latitude.

By THO. JACKSON Mathematic.

London, Printed by E. Cotes, for the Company of

STATIONERS, 1653.

Vulgar notes according to the Julian account
used here in England for this year 1633.

The Golden Number	_____	1
The Dominical Letter	_____	B
The Circle of the Sun	_____	10
The Roman Indiction	_____	6
The Number of Direction	_____	10
The Epact	_____	11
Shrove Sunday	_____	February 20
Septuagesima	_____	Febr. 6
Seragesima	_____	Febr. 13
Quinquagesima	_____	Febr. 20
Quadragesima	_____	Febr. 27
Easter Day	_____	Aprill 10
Ascension Sunday	_____	May 15
Whitsunday	_____	May 19
Trinity Sunday	_____	May 29
Ascension Sunday	_____	Jun. 5
	_____	Novemb. 27



Hilary Term beginneth the 24 day of January, and
endeth the 13 day of February.

Easter Term beginneth the 27 of Aprill, and endeth the
23 day of May.

Trinity Term beginneth the 5 of June, and endeth the
29 day.

Michaelmas Term beginneth the 24 day of October, and
endeth the 23 day of November.

The names and Characters of the 12 Signs of the Zodiack, with a description of what part, or member of the body each Sign governeth.

♈ <i>Aries</i> , Head and Face.	♎ <i>Libra</i> , Reins and Loines.
♉ <i>Taurus</i> , Neck and throat.	♏ <i>Scorpio</i> , Secret Members.
♊ <i>Gemini</i> , Armes & Shoul.	♐ <i>Sagittarius</i> , Thighs.
♋ <i>Cancer</i> , Brest & Stomach.	♑ <i>Capricornus</i> , Knees.
♌ <i>Leo</i> , Heart and Back.	♒ <i>Aquarius</i> , Legs.
♍ <i>Virgo</i> , Bowels and Belly.	♓ <i>Pisces</i> , Feet.

Names and Characters of the 7 Planets, with the Head and Tail of the Dragon.

♄ <i>Saturne</i> .	♈ <i>Dragons Head</i> .
♃ <i>Jupiter</i> .	♏ <i>Dragons Tail</i> .
♂ <i>Mars</i> .	
☉ <i>Sol</i> .	
♀ <i>Venus</i> .	
☿ <i>Mercury</i> .	
☾ <i>Luna</i> .	

A Table of the Aspects.

	s.	d.	
♂ <i>Conjunction</i> —————	0	0	♌ <i>Novilunium</i> .
♄ <i>Semisextile</i> —————	1	0	
* <i>Sextile</i> —————	2	0	♌ <i>Cornicular</i> .
Q <i>Quintile</i> —————	2	12	
□ <i>Quartile</i> —————	3	0	♌ <i>Semiplena</i> .
Td <i>Tridecile</i> —————	3	18	
Δ <i>Trine</i> —————	4	0	♌ <i>Gibbosa</i> .
Bq <i>Biquintile</i> —————	4	12	
♁ <i>Opposition</i> —————	6	0	♌ <i>Plenilunium</i> .

A brief description of the particular things contained
in this Almanack exemplary,

In this Almanack the twelve months are contained in 12
pages, each page is divided into 3 Columns.

In the First is placed the dayes of the moneth. The se-
cond, the dayes of the week. The third containeth the fixed
and movable spheres: the beginnings and endings of the
Termes: the Aspects of the Planets with the Moon, and
mutually with themselves and the Moon in her Apogzon
Perigzon. The fourth, sheweth the place of the Moon in
signs, degrees, and minutes. The fifth, sheweth the place
of the Sun in signs, degrees, and minutes. The sixth,
sheweth the places of the Planets every fift day at noon.
The seventh, sheweth the time of Sun rising every day in the
moneth. The eighth, sheweth the time of Sun setting eve-
ry day in the moneth.

Example.

The 19 day of Jan. being Wednesday, Saturne is in Bi-
quintile of Venus, or an aspect of distance 4 signs, 24 de-
grees: on the 15 day Jupiter is Semisextile to Venus in the
9 day the Moon is in her Apogzon, and the 31 of Jan. Sa-
turne is in Conjunction with the Moon; the Moons place is
2 degr. 18. min. in Leo; place of the Sun is 22 degr. 23 min.
in Aquarius: Saturn is that day 8 degrees 28 min. in Leo.

How to find the true place of any of the Planets for any
day that be intermediated by taking the difference betwixt
the two dayes before and after the time assigned. *Example.*

I would know the true place of Jupiter the 6 day of Jan.
I find Jupiter on the 2 day to be 24 day 14 min. of ν and on
the 7 day I find him in 25 day 24 m. of ν direct, the diffe-
rence is 1 day 10 min. so find his true place on the 6 day,
then say by the rule of 3, if 4 daies motion give 90 min. what
shall 3 daies motion give, multiply and divide, and you shall
finde 52 min. 30 sec. the which add to 24 d. 14 min. and it
will be 25 d. 6 min. 30 sec. the true place of Jupiter on the
6 day of Jan. The like may be said for any other time, and
for any other Planet. Behold the work,

	d.	m.		d.	m.	
Jan. 7 day	25	24	ν	25	24	ν
Jan. 2 day	24	14	ν	24	14	ν
Difference	1	10				
				4	70	3
				3		
						213
						210
						3
						52 $\frac{1}{2}$
						41

January hath xxxj. dayes.

Full Moon 3 day 19 min. past 5 afternoon.
 Last quarter 11 day 25 min. past 7 afternoon.
 New Moon 19 day 7 min. past 6 before noon.
 First quarter 25 day 12 min. past 12 at night.

Sun rising
 Sun setting

Mo	W	Th	F	S	S	place.	☉ pla	Planet place	h	m	s
1	h	♂	♂	♂	♂	♂	♂	♂	10	52	8
2	♂	♂	♂	♂	♂	♂	♂	♂	24	14	8
3	♂	♂	♂	♂	♂	♂	♂	♂	2	57	7
4	♂	♂	♂	♂	♂	♂	♂	♂	12	44	7
5	♂	♂	♂	♂	♂	♂	♂	♂	14	46	7
6	♂	♂	♂	♂	♂	♂	♂	♂	10	48	7
7	♂	♂	♂	♂	♂	♂	♂	♂	25	24	7
8	♂	♂	♂	♂	♂	♂	♂	♂	5	36	7
9	♂	♂	♂	♂	♂	♂	♂	♂	19	55	7
10	♂	♂	♂	♂	♂	♂	♂	♂	17	56	7
11	♂	♂	♂	♂	♂	♂	♂	♂	10	6	7
12	♂	♂	♂	♂	♂	♂	♂	♂	26	35	7
13	♂	♂	♂	♂	♂	♂	♂	♂	8	10	7
14	♂	♂	♂	♂	♂	♂	♂	♂	25	15	7
15	♂	♂	♂	♂	♂	♂	♂	♂	17	13	7
16	♂	♂	♂	♂	♂	♂	♂	♂	9	41	7
17	♂	♂	♂	♂	♂	♂	♂	♂	27	45	7
18	♂	♂	♂	♂	♂	♂	♂	♂	10	39	7
19	♂	♂	♂	♂	♂	♂	♂	♂	1	15	7
20	♂	♂	♂	♂	♂	♂	♂	♂	12	26	7
21	♂	♂	♂	♂	♂	♂	♂	♂	9	17	7
22	♂	♂	♂	♂	♂	♂	♂	♂	28	55	7
23	♂	♂	♂	♂	♂	♂	♂	♂	13	3	7
24	♂	♂	♂	♂	♂	♂	♂	♂	7	17	7
25	♂	♂	♂	♂	♂	♂	♂	♂	6	28	7
26	♂	♂	♂	♂	♂	♂	♂	♂	8	52	7
27	♂	♂	♂	♂	♂	♂	♂	♂	0	6	7
28	♂	♂	♂	♂	♂	♂	♂	♂	15	24	7
29	♂	♂	♂	♂	♂	♂	♂	♂	13	21	7
30	♂	♂	♂	♂	♂	♂	♂	♂	2	57	7
31	♂	♂	♂	♂	♂	♂	♂	♂	8	28	7

February. hath xxviij. dayes.

Full Moon 2 day at 10 a clock before noon.

Last quarter 10 day 2 a clock after noon.

New Moon 12 day 8 min. past 5 after noon.

First quarter 23 day 44 min. past 2 after noon.

Sun rising

Sun setting

Mo. W. Th. Fri. Sa. Su. place place place place M. M. H. M.

1	h * 8 J Q	Ol 12 37 23 23	h 8 24 6	7 12 4 43
2	e Canbleinas	25 22 24 24	h 1 27	7 16 4 44
3	f	7 32 25 24	h 18 6 m	7 14 4 46
4	g c v	19 36 26 25	h 20 38 v	7 13 4 47
5	h	1 30 17 25	h 3 8	7 11 4 49
6	Septuages.	13 20 28 26	h 8 2 ol	7 10 4 50
7	c □ v	25 17 29 26	h 2 35	7 8 4 52
8	d □ 16 c	m 6 56	h 17 20 13 m	7 6 4 54
9	e	18 53	h 1 27 26 42 v	7 4 4 56
10	f * v	1 4 2 27	h 5 55	7 2 4 58
11	g ss v	13 27 3 28	h 7 40 ol	6 59 50 1
12	h om endo	26 14 4 28	h 3 41	6 58 52 2
13	Geragesima	v 9 27 5 28	h 22 14 m	6 56 54 4
14	Valentine	23 6 6 29	h 2 48	6 55 55 5
15	d	7 12 7 29	h 10 22	6 54 56 6
16	e	21 42 8 29	h 7 19 ol	6 53 57 7
17	f	6 29 9 29	h 4 42	6 52 58 9
18	g	21 28 10 29	h 24 7 m	6 49 59 11
19	h	6 26 11 30	h 8 54	6 46 59 14
20	Quinquages.	31 21 12 30	h 15 56	6 44 59 16
21	c	6 5 13 30	h 7 2 ol	6 42 59 18
22	d	25 28 14 29	h 5 50	6 40 59 20
23	e	4 30 15 29	h 25 52 m	6 38 59 22
24	Patrick	18 12 16 29	h 15 0	6 35 59 25
25	f	1 32 17 29	h 22 15	6 32 59 28
26	g	14 31 18 29	h 6 46 ol	6 30 59 30
27	Quadrages.	27 16 19 29	h 6 52	6 27 59 33
28	h	9 48 20 29	h 27 31 m	6 24 59 36

March hath xxxj. dayes

Full Moon 4 day 4 a clock in morning.
 Last quarter 12 day 48 min. past 6 in morning.
 New Moon 19 day 36 min. past 2 in morning.
 First quarter 25 day 49 min. past 7 after noon.

Sun rising
 Sun setting

mp wdi Mutuall aspect. C place D place Planet places H.M. M.M.

1	D	David	♂	21	7	21	28	♂	6	37	♂	6	22	5	38
2	E	Chad	♂	5	12	22	28	♂	7	27	♂	6	20	5	40
3	F	Eclipsed	♂	17	32	23	28	♂	12	25	♂	6	10	5	41
4	G	* h	♂	28	10	24	28	♂	24	47	♂	6	16	5	44
5	H	C ap geo	♂	10	1	25	27	♂	3	42	♂	6	14	5	46
6	I	Δ ♀	♂	21	50	26	27	♂	6	25	♂	5	12	5	48
7	J	□ ♀	♂	3	42	27	26	♂	8	27	♂	6	9	5	51
8	K	□ ♀	♂	15	36	28	26	♂	29	45	♂	6	2	5	53
9	L	* ♀	♂	27	36	29	25	♂	0	54	♂	6	5	5	55
10	M	□ ♀	♂	9	47	29	25	♂	11	32	♂	6	3	5	57
11	N	* ♀	♂	22	13	1	24	♂	6	34	♂	6	0	6	0
12	O	* ♀	♂	4	57	2	23	♂	9	22	♂	5	58	6	2
13	P	Gregoric	♂	18	13	23	23	♂	0	32	♂	5	57	6	3
14	Q	Td ♀	♂	1	32	4	23	♂	7	1	♂	5	56	6	4
15	R	Δ ☉ h	♂	15	29	5	23	♂	10	0	♂	5	54	6	6
16	S	♂ ♀	♂	29	52	6	20	♂	6	8	♂	5	52	6	8
17	T	♂ ☉	♂	14	38	7	20	♂	10	17	♂	5	50	6	10
18	U	C perigri.	♂	29	40	8	19	♂	1	47	♂	5	48	6	12
19	V	☉ ad *	♂	14	50	9	18	♂	13	9	♂	5	46	6	14
20	W	* ☉ ♀	♂	0	0	10	17	♂	29	1	♂	5	44	6	16
21	X	Δ ♀	♂	15	11	11	16	♂	6	2	♂	5	43	6	18
22	Y	♂ ♀	♂	29	43	12	15	♂	11	9	♂	5	40	6	20
23	Z	Δ h	♂	14	1	13	14	♂	2	29	♂	5	39	6	21
24	A	□ ♀	♂	27	50	14	13	♂	19	16	♂	5	37	6	23
25	B	♂	♂	11	17	15	12	♂	8	38	♂	5	36	6	24
26	C	♂ h	♂	24	15	16	11	♂	6	1	♂	5	34	6	26
27	D	♂ ♀	♂	6	53	17	10	♂	11	57	♂	5	33	6	28
28	E	Td h	♂	19	12	18	9	♂	2	47	♂	5	30	6	30
29	F	Td h	♂	1	20	19	8	♂	25	23	♂	5	28	6	32
30	G	♂	♂	13	17	20	7	♂	18	55	♂	5	26	6	34
31	H	♂ ☉ ♀	♂	25	8	21	6	♂	6	1	♂	5	24	6	36

Aprill hath xxx. dayes.

Full Moon 2 day 20 min. past 9 after noon.

Last quarter 10 day 22 min. past 6 after noon.

New Moon 17 day 48 min. past 10 before noon.

First quarter 24 day 53 min. past 3 before noon.

Sam Riba

Satisficing

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

May hath xxxj. dayes.

Full Moon 2 day 12 min. past 1 after noon.
 Last quarter 10 day 11 min. past 3 before noon.
 New Moon 16 day 38 min. past 6 after noon.
 First quarter 23 day 12 3 clock at night.

Sun rising
 Sun setting

Mo	W	M	Mutual aspe	place	Op	Pla	Planet	places	1	M	H	M
1	☿	♂	♂	♂	♂	♂	♂	♂	4	21	7	30
2	☿	♂	♂	♂	♂	♂	♂	♂	4	20	7	40
3	☿	♂	♂	♂	♂	♂	♂	♂	4	19	7	41
4	☿	♂	♂	♂	♂	♂	♂	♂	4	18	7	43
5	☿	♂	♂	♂	♂	♂	♂	♂	4	17	7	43
6	☿	♂	♂	♂	♂	♂	♂	♂	4	16	7	44
7	☿	♂	♂	♂	♂	♂	♂	♂	4	14	7	46
8	☿	♂	♂	♂	♂	♂	♂	♂	4	13	7	47
9	☿	♂	♂	♂	♂	♂	♂	♂	4	11	7	49
10	☿	♂	♂	♂	♂	♂	♂	♂	4	10	7	50
11	☿	♂	♂	♂	♂	♂	♂	♂	4	9	7	51
12	☿	♂	♂	♂	♂	♂	♂	♂	4	7	7	53
13	☿	♂	♂	♂	♂	♂	♂	♂	4	6	7	54
14	☿	♂	♂	♂	♂	♂	♂	♂	4	5	7	55
15	☿	♂	♂	♂	♂	♂	♂	♂	4	4	7	56
16	☿	♂	♂	♂	♂	♂	♂	♂	4	2	7	58
17	☿	♂	♂	♂	♂	♂	♂	♂	4	0	8	0
18	☿	♂	♂	♂	♂	♂	♂	♂	3	59	8	1
19	☿	♂	♂	♂	♂	♂	♂	♂	3	58	8	2
20	☿	♂	♂	♂	♂	♂	♂	♂	3	57	8	3
21	☿	♂	♂	♂	♂	♂	♂	♂	3	55	8	6
22	☿	♂	♂	♂	♂	♂	♂	♂	3	54	8	8
23	☿	♂	♂	♂	♂	♂	♂	♂	3	52	8	8
24	☿	♂	♂	♂	♂	♂	♂	♂	3	51	8	8
25	☿	♂	♂	♂	♂	♂	♂	♂	3	50	8	10
26	☿	♂	♂	♂	♂	♂	♂	♂	3	50	8	10
27	☿	♂	♂	♂	♂	♂	♂	♂	3	50	8	10
28	☿	♂	♂	♂	♂	♂	♂	♂	3	48	8	10
29	☿	♂	♂	♂	♂	♂	♂	♂	3	50	8	10
30	☿	♂	♂	♂	♂	♂	♂	♂	3	49	8	11
31	☿	♂	♂	♂	♂	♂	♂	♂	3	49	8	11

June hath xxx. dayes.

Full Moon 1 day 58. min. past 2 before noon.
 Last quarter 8 day 34 min. past 9 before noon.
 New Moon 15 day 57 min. past 2 in morning.
 First quarter 22 day at 5 a clock after noon.
 Full Moon 30 day at 5 a clock after noon.

Sun rising

Sun setting

Days	Mutual aspe	Place	Pla.	Planet places	H.M.	H.M.
1	☾	♂	♂	♂ 25 9 20 45	♂ 9 34	♂ 3 49 8 11
2	☾	♂	♂	♂ 8 12 1 42	♂ 17 0	♂ 3 49 8 11
3	☾	♂	♂	♂ 21 5 12 39	♂ 17 39	♂ 3 49 8 11
4	☾	♂	♂	♂ 4 19 13 36	♂ 17 22	♂ 3 49 8 11
5	☾	♂	♂	♂ 17 4 24 33	♂ 6 44	♂ 3 48 8 12
6	☾	♂	♂	♂ 1 12 25 30	♂ 10 5	♂ 3 48 8 12
7	☾	♂	♂	♂ 14 53 26 27	♂ 16 51	♂ 3 48 8 12
8	☾	♂	♂	♂ 18 43 27 25	♂ 17 1	♂ 3 48 8 12
9	☾	♂	♂	♂ 12 46 28 22	♂ 23 31	♂ 3 47 8 13
10	☾	♂	♂	♂ 27 0 29 19	♂ 8 33	♂ 3 47 8 13
11	☾	♂	♂	♂ 11 25 5 16	♂ 33 37	♂ 3 47 8 13
12	☾	♂	♂	♂ 25 54 1 13	♂ 16 38	♂ 3 47 8 13
13	☾	♂	♂	♂ 10 26 2 10	♂ 16 56	♂ 3 47 8 13
14	☾	♂	♂	♂ 24 52 3 7	♂ 0 53	♂ 3 47 8 13
15	☾	♂	♂	♂ 9 44 4	♂ 13 15	♂ 3 47 8 13
16	☾	♂	♂	♂ 22 58 5 1	♂ 11 10	♂ 3 48 8 13
17	☾	♂	♂	♂ 6 27 5 58	♂ 16 19	♂ 3 48 8 12
18	☾	♂	♂	♂ 19 32 6 55	♂ 17 5	♂ 3 48 8 12
19	☾	♂	♂	♂ 2 13 7 52	♂ 5 48	♂ 3 49 8 11
20	☾	♂	♂	♂ 14 33 8 50	♂ 17 49	♂ 3 49 8 11
21	☾	♂	♂	♂ 26 35 9 47	♂ 11 51	♂ 3 49 8 11
22	☾	♂	♂	♂ 8 28 10 44	♂ 15 50	♂ 3 49 8 11
23	☾	♂	♂	♂ 26 13 11 41	♂ 17 44	♂ 3 50 8 10
24	☾	♂	♂	♂ 2 0 12 38	♂ 13 10	♂ 3 50 8 10
25	☾	♂	♂	♂ 13 53 3 35	♂ 26 33	♂ 3 50 8 10
26	☾	♂	♂	♂ 25 56 4 32	♂ 12 19	♂ 3 51 8 9
27	☾	♂	♂	♂ 8 14 5 29	♂ 15 29	♂ 3 51 8 9
28	☾	♂	♂	♂ 26 48 6 26	♂ 18 25	♂ 3 51 8 8
29	☾	♂	♂	♂ 3 42 7 23	♂ 5	♂ 3 53 8 7
30	☾	♂	♂	♂ 16 52 8 21	♂ 3 34	♂ 3 54 8 6

July hath. xxxj. dayes.

Last quarter 7 day 34 min. past 2 after noon.
 New Moon 14 day 44 min. past 12 at noon.
 First quart. 22 day 36 min. past 10 before noon.
 Full moon 30 day 10 min. past 1 before.

Sun rising
 setting

M. P. W. D. Mutual asper		place	place	Planet places	H. M. H. M.
1	B	♂	♂	♂	17 19 18
2	Bq	♂	♂	♂	13 55 20 15
3	Δ	♂	♂	♂	27 42 21 12
4	♂	♂	♂	♂	11 36 22 9
5	SS	♂	♂	♂	25 33 23 6
6	♂	♂	♂	♂	9 34 24 3
7	♂	♂	♂	♂	23 37 25 1
8	Δ	♂	♂	♂	7 42 25 58
9	*	♂	♂	♂	21 47 26 55
10	♂	♂	♂	♂	5 53 27 52
11	C	♂	♂	♂	19 57 28 49
12	Td	♂	♂	♂	3 56 29 47
13	♂	♂	♂	♂	17 44 0 44
14	♂	♂	♂	♂	1 18 1 41
15	Td	♂	♂	♂	14 33 2 38
16	♂	♂	♂	♂	27 29 3 36
17	♂	♂	♂	♂	10 64 33 13
18	*	♂	♂	♂	22 13 5 30
19	♂	♂	♂	♂	4 28 6 27
20	♂	♂	♂	♂	16 21 7 25
21	♂	♂	♂	♂	28 10 8 23
22	♂	♂	♂	♂	9 57 9 20
23	♂	♂	♂	♂	21 50 10 17
24	Δ	♂	♂	♂	3 53 11 14
25	♂	♂	♂	♂	16 13 12 12
26	♂	♂	♂	♂	28 51 13 9
27	♂	♂	♂	♂	11 52 14 7
28	*	♂	♂	♂	25 52 15 4
29	♂	♂	♂	♂	8 52 16 2
30	♂	♂	♂	♂	22 52 17 0
31	♂	♂	♂	♂	7 5 17 57

August hath xxxj dayes.

Last quarter 5 day 30 min: past 7 after noon.

New Moon 13 day 6 min. past 1 before noon.

First quarter 21 day 50 min. past 3 before noon.

Full Moon 28 day 48 min. past 10 before noon.

Sun rising

Sun setting

[illegible]

September hath xxx. dayes.

Last quarter 4 day 6 min. past 2 before noon.
 New Moon 11 day 10 min. past 4 after noon.
 First quarter 19 day 6 min. past 8 after noon.
 Full Moon 26 day at 8 a clock in the afternoon.

Sun rising

Sun setting

Knowl Mutual aspr. | ☾ place. | ☉ place. | Planets place. | H. M. | H. M.

1	Giles	♂ 14 45 18 54	♂ 21 41	♂ 5 36	6 24
2	Anthony	♂ 29 6 19 53	♂ 8 1	♂ 5 38	6 22
3	SS ☉ h	♂ 13 18 20 51	♂ 19 7	♂ 5 40	6 20
4		♂ 27 7 21 50	♂ 10 44	♂ 5 43	6 17
5	☐ ♀ ☾	♂ 10 38 22 48	♂ 16 44	♂ 5 45	6 15
6	☐ ♀ ☾	♂ 23 55 23 47	♂ 21 16	♂ 5 47	6 13
7	♂ ♀ ☾	♂ 6 55 24 46	♂ 7 44	♂ 5 49	6 11
8	♂ ♀ ☾	♂ 19 37 25 45	♂ 22 18	♂ 5 50	6 10
9	♂ ♀ ☾	♂ 2 10 26 43	♂ 16 55	♂ 5 52	6 8
10	☐ ♀ ☾	♂ 14 31 27 42	♂ 16 53	♂ 5 54	6 6
11	Td ♀ ☾	♂ 16 45 28 41	♂ 21 50	♂ 5 56	6 4
12	♂ ♀ ☾	♂ 8 49 29 40	♂ 7 31	♂ 5 58	6 2
13	♂ ♀ ☾	♂ 20 48 30 39	♂ 25 32	♂ 6 06	0
14	☐ apogeo	♂ 2 47 31 38	♂ 23 5	♂ 6 25	58
15	☐ ♀ ☾	♂ 14 33 32 37	♂ 14 12	♂ 6 45	56
16	♂ ♀ ☾	♂ 26 26 33 36	♂ 22 22	♂ 6 65	54
17	♂ ♀ ☾	♂ 8 22 35 35	♂ 7 24	♂ 6 85	52
18	♂ ♀ ☾	♂ 20 24 34 34	♂ 28 53	♂ 6 105	50
19	☐ ☉ ♀	♂ 2 42 33 33	♂ 29 16	♂ 6 125	48
20	☐ ☉ ♀	♂ 15 11 32 32	♂ 8 49	♂ 6 145	46
21	☐ ♀ ☾	♂ 28 4 31 31	♂ 22 53	♂ 6 165	44
22	♂ ♀ ☾	♂ 11 20 31 31	♂ 7 10	♂ 6 185	42
23	SS ♀ ☾	♂ 25 5 30 30	♂ 2 17	♂ 6 205	40
24	☐ ☉ ♀	♂ 9 15 29 29	♂ 5 27	♂ 6 225	38
25	☐ ♀ ☾	♂ 23 55 29 29	♂ 3 36	♂ 6 245	36
26	☐ ♀ ☾	♂ 8 46 28 28	♂ 23 23	♂ 6 265	34
27	☐ ♀ ☾	♂ 23 53 28 28	♂ 7 21	♂ 6 285	32
28	☐ perigeo	♂ 9 2 27 27	♂ 5 42	♂ 6 305	30
29	☐ perigeo	♂ 24 5 27 27	♂ 11 37	♂ 6 325	28
30	SS ♀ ☾	♂ 8 56 26 26	♂ 1 46	♂ 6 345	26

October hath xxxj. dayes.

Last quarter 3 day 14 min. past 11 at noon.
 New Moon 11 day 36 min. past 9 before noon.
 First quarter 19 day 7 min. past 10 before noon.
 Full Moon 26 day 24 min. past 5 before noon.

Sun rising

Sun setting

M.W.D.Mutual aspe. place place Planet places H.M.H.M.																	
1	*	h	☿	II	23	16	18	26	h	23	52	☿	6	36	5	24	
2	Td	☉	☿	☿	7	11	19	16	☿	7	28	☿	6	38	5	22	
3	☿	☿	☿		20	46	20	25	♂	9	11	☿	6	40	5	20	
4	♂	☿	☿	☿	3	34	21	25	♀	17	47	☿	6	42	5	18	
5	♂	h	☿		16	43	22	25	♀	4	29	☿	6	44	5	17	
6	☿	☿	☿		29	13	23	24	h	24	18	☿	6	46	5	14	
7	☿	♂	☿	☿	☿	30	24	24	☿	7	40	☿	6	48	5	12	
8	☿	☿	☿		29	39	25	24	♂	12	42	☿	6	50	5	10	
9	☿	☿	☿	☿	☿	39	26	24	♀	23	57	☿	6	52	5	8	
10	☿	*	h	☿		17	36	27	24	♀	10	6	6	54	5	6	
11	☿	☿	apogeo	☿		29	29	28	24	h	24	43	☿	6	56	5	4
12	☿	*	♂	☿	☿	11	23	29	24	☿	7	58	☿	6	58	5	2
13	☿	♂	☿	☿		23	17	30	24	♂	16	16	☿	7	0	5	0
14	☿	*	☿	☿	☿	5	14	1	24	♀	0	6	☿	7	2	4	58
15	☿	Δ	♂	☿		17	15	2	24	♀	17	29	☿	7	4	4	56
16	☿	Td	☿	☿		29	22	3	24	h	25	6	☿	7	6	4	54
17	☿	B	h	☿	☿	11	39	4	24	☿	8	20	☿	7	8	4	52
18	☿	Rute	☿	☿		24	10	5	24	♂	19	52	☿	7	10	4	50
19	☿	SS	☉	♂	☿	6	57	6	24	♀	5	16	☿	7	12	4	48
20	☿	*	h	☿		20	6	7	24	♀	25	31	☿	7	14	4	46
21	☿	☿	☿	☿	☿	3	40	8	25	h	25	26	☿	7	16	4	44
22	☿	*	♂	☿		17	40	9	25	☿	8	42	☿	7	18	4	42
23	☿	Δ	☿	☿	☿	2	7	10	25	♂	23	31	☿	7	20	4	40
24	☿	☿	erm beg	☿		16	58	11	26	♀	12	24	☿	7	22	4	38
25	☿	☿	perigri.	☿	☿	2	7	12	26	♀	3	42	☿	7	24	4	35
26	☿	☐	h	☿		17	22	13	26	h	25	45	☿	7	26	4	34
27	☿	☿	☿	☿	☿	2	37	14	27	☿	9	15	☿	7	27	4	33
28	☿	☿	sm. & lu.	☿		17	37	15	27	♂	27	9	☿	7	28	4	32
29	☿	Δ	☿	☿	☿	2	14	16	28	♀	18	33	☿	7	30	4	30
30	☿	Δ	☉	☿		16	25	17	28	☿	11	47	☿	7	32	4	28
31	☿	☿	☿	☿	☿	0	6	18	29	h	26	2	☿	7	34	4	26

22752-1273 112915007224

New Moon 10 day 11 min. past 4 before noon.

Full Moon 25 day 24 min. past 1 before noon.

1. ☐ 1st place 2. ☐ 2nd place 3. ☐ 3rd place 4. ☐ 4th place 5. ☐ 5th place 6. ☐ 6th place 7. ☐ 7th place 8. ☐ 8th place 9. ☐ 9th place 10. ☐ 10th place 11. ☐ 11th place 12. ☐ 12th place 13. ☐ 13th place 14. ☐ 14th place 15. ☐ 15th place 16. ☐ 16th place 17. ☐ 17th place 18. ☐ 18th place 19. ☐ 19th place 20. ☐ 20th place 21. ☐ 21st place 22. ☐ 22nd place 23. ☐ 23rd place 24. ☐ 24th place 25. ☐ 25th place 26. ☐ 26th place 27. ☐ 27th place 28. ☐ 28th place 29. ☐ 29th place 30. ☐ 30th place 31. ☐ 31st place 32. ☐ 32nd place 33. ☐ 33rd place 34. ☐ 34th place 35. ☐ 35th place 36. ☐ 36th place 37. ☐ 37th place 38. ☐ 38th place 39. ☐ 39th place 40. ☐ 40th place 41. ☐ 41st place 42. ☐ 42nd place 43. ☐ 43rd place 44. ☐ 44th place 45. ☐ 45th place 46. ☐ 46th place 47. ☐ 47th place 48. ☐ 48th place 49. ☐ 49th place 50. ☐ 50th place 51. ☐ 51st place 52. ☐ 52nd place 53. ☐ 53rd place 54. ☐ 54th place 55. ☐ 55th place 56. ☐ 56th place 57. ☐ 57th place 58. ☐ 58th place 59. ☐ 59th place 60. ☐ 60th place 61. ☐ 61st place 62. ☐ 62nd place 63. ☐ 63rd place 64. ☐ 64th place 65. ☐ 65th place 66. ☐ 66th place 67. ☐ 67th place 68. ☐ 68th place 69. ☐ 69th place 70. ☐ 70th place 71. ☐ 71st place 72. ☐ 72nd place 73. ☐ 73rd place 74. ☐ 74th place 75. ☐ 75th place 76. ☐ 76th place 77. ☐ 77th place 78. ☐ 78th place 79. ☐ 79th place 80. ☐ 80th place 81. ☐ 81st place 82. ☐ 82nd place 83. ☐ 83rd place 84. ☐ 84th place 85. ☐ 85th place 86. ☐ 86th place 87. ☐ 87th place 88. ☐ 88th place 89. ☐ 89th place 90. ☐ 90th place 91. ☐ 91st place 92. ☐ 92nd place 93. ☐ 93rd place 94. ☐ 94th place 95. ☐ 95th place 96. ☐ 96th place 97. ☐ 97th place 98. ☐ 98th place 99. ☐ 99th place 100. ☐ 100th place

Sua rifine
Sun ferring

MD|W@|actual age|) place|) pla| Planet place| H.M| H.M.

[illegible]

December hath xxxj. dayes.

Last quarter first day 30 min. past 5 after noon.
 New Moon 9 day 30 min. past 10 after noon.
 First quarter 17 day 12 min. past 10 before noon.
 Full Moon 25 day 51 min. past 2 before noon.
 Last quarter 31 day 42 min. past 5 after noon.

Sun
rising

Sun
setting

1	t				17	14	19	59	h	26	37	8	10	3	50
2	g	Δ	♀	☾	20	26	21	0	✓	14	39	8	11	3	49
3	g	Δ	♀	☾	21	24	22	1	☉	24	3	8	11	3	48
4	g	Δ	♀	☾	22	15	23	2	☉	24	27	8	11	3	49
5	t	☾	apogeo	☾	23	3	24	3	☉	8	18	8	12	3	48
6	h	☾	☾	☾	24	16	25	4	h	26	34	8	12	3	48
7	Δ	☉	☾	☾	25	28	26	5	✓	15	38	8	12	3	48
8	☾	☾	☾	☾	26	10	27	6	☉	27	49	8	13	3	47
9	Δ	☾	☾	☾	27	23	28	7	☉	8	28	8	13	3	47
10	SS	☾	☾	☾	28	5	29	8	☉	15	50	8	13	3	47
11	☾	☾	☾	☾	29	8	3	9	h	26	27	8	13	3	47
12	☾	☾	☾	☾	30	49	4	10	✓	16	38	8	13	3	47
13	Bq	☾	☾	☾	31	42	5	11	☉	1	35	8	13	3	47
14	☾	☾	☾	☾	1	26	45	12	☉	14	26	8	13	3	47
15	☾	☾	☾	☾	2	10	0	13	☉	22	50	8	13	3	47
16	☾	☾	☾	☾	3	23	29	14	h	26	37	8	13	3	47
17	☾	☾	☾	☾	4	7	10	15	✓	17	39	8	12	3	48
18	☾	☾	☾	☾	5	21	9	16	☉	5	21	8	12	3	48
19	☾	☾	☾	☾	6	5	2	17	☉	20	22	8	11	3	49
20	☾	☾	☾	☾	7	19	52	18	☉	28	35	8	10	3	50
21	☾	☾	☾	☾	8	4	38	19	h	26	6	8	9	3	51
22	☾	☾	☾	☾	9	19	24	20	✓	18	44	8	8	3	52
23	☾	☾	☾	☾	10	4	7	21	☉	9	8	8	6	3	54
24	☾	☾	☾	☾	11	18	35	22	☉	26	18	8	5	3	55
25	☾	☾	☾	☾	12	2	47	23	☉	1	51	8	4	3	56
26	☾	☾	☾	☾	13	16	33	24	h	25	51	8	3	3	57
27	☾	☾	☾	☾	14	29	55	25	✓	19	48	8	2	3	58
28	☾	☾	☾	☾	15	12	50	26	☉	12	54	8	1	3	59
29	☾	☾	☾	☾	16	35	23	27	☉	5	8	8	0	3	57
30	☾	☾	☾	☾	17	7	36	28	☉	0	57	8	0	3	58
31	☾	☾	☾	☾	18	19	38	29	h	25	55	8	0	3	58

JACKSON.

1653.

A

Prognostication gathered
from the Suns Ingresses, toge-
ther with Astronomicall Solar pro-
positions wherein is 28. operations Illu-
strated by examples.

VVhereunto is annexed the
manner howv to calculate an E-
clipse of Sun or Moon for any place
assigned for any time past, present,
or to come.

And finished vvith the Proportio-
nall bodies of the Spheres one to
another, and the distance of the Pla-
nets among themselves and with
the firmament.

By THOMAS JACKSON,
Mathematician.

Printed at London by W. Wilson for
the Company of Stationers. 1653.

THE MONTHLY DAY, HOUR, AND MINUTE
OF THE YEAR, 1780, IN THE
CITY OF NEW-YORK.

The Month, Day, Hour, and Minute
of the Year, 1780, in the
City of New-York.



The Month, Day, Hour, and Minute
of the Year, 1780, in the
City of New-York.

The Month, Day, Hour, and Minute
of the Year, 1780, in the
City of New-York.

The Moneth, Day, Hour, and Minute of the Suns Ingress, or the Suns Entrance into the four Cardinall

Signes this present year 1653.

THe Cardinal Signs are, Aries, Cancer, Libra, Capricorn, being as it were the hinges on which the year bangerth. The first Quarter is the Spring, enters with the Sign of Aries, to whose first minute the Sun cometh this year on the 10 day of March 5 min. past 2 a clock in the morning.

The next Quarter is Summer, the Cardinal Sign is Cancer, the beginning of Summer is the 11 day of June, 10 min. past 5 a clock in the morning.

Autumn, or Harvest, beginneth Libra the 12 day of September at 8 a clock at night.

Winter taketh his beginning Capricorn the 11 day of December, half an hour past 7 in the morning.

Of the Eclipses hapning this year 1653:

THis year there will be four Eclipses, two of the Sun, and two of the Moon, of which there will be but one visible in our horizon, and it will happen the 4 day of March, 49 minutes past 1 in the morning, and ends 57 minutes past 5 in the morning; so that the total duration will be 4 houres 8 minutes: The digits eclipsed is 18. 43 minutes.

A Prognostication.

I here omit the other three Eclipses, of which the effects will not happen in and about England; as for our Eclipse the 4 of March before mentioned, the effects will happen in June ensuing; on which time is the height of the effects of that Eclipse hapned on the 29 day of March 1652. And for which time to portend the contingencies, or more plainly to foretell what accidents may happen to sublunary bodies, I must have recourse to the Solar Eclipse happened March 29 day 1652, for that Eclipse will overway, predominate, and have dominion over this Lunar Eclipse, so the portendings; there will be much arrogancie about the Eastern parts from London, pestilent feavers, the death of great men, men of power; much rapine, theif, plundring, house burnings, death of cattle, &c.

A short discoverie of this present year 1653, gathered from the position of the Heavens at the Suns ingress of the four Cardinal Signs.

NO using *novilunium postventionale vel perventionale* in vernal *æstivum* & autumnal *hibernum*, but the vernal Ingress of the Sun with the other ingresses of the Cardinal Signs.

Haly saith, Major tamen potentia, &c. The greatest power in signification of the accidents of the year is ever given unto the Lord of the Ascendant, &c. For confirmation of my judgement herein, in this Revolution is, *16, 166.*

Jackson, 1653.



Jupiter is Lord of the ascendent posited in the second house, the cusp of the ascendent is possessed with common sign the Lord thereof in a fixed sign, and in a succedent house, and he being a weighty Planet these testimonies do signifie that this Suns vernal Ingress that predictions may be portended throughout the Revolution Furthermore consider, that the next Quarter the Sun enters the 11 of June 5 a clock, and 10 minutes past noon, then is Jupiter Lord of the Ascendent as he is in this Quarter; and in Autumn he hath his triplicity in the Ascen-

A Prognostication.

dent; and when the Sun enters the Winter Quarter Jupiter is Lord of the Ascendant; to which I conclude, Jupiter is Almutan of the year, & makes Venus Cosignificator.

Si ascendit Sagittarius, sollicitabitur circa edificationes: I say, Sagittarius being the Sign ascending, signifies men will much delight to build, &c.

Jupiter Lord of the Ascendant signifies, as, viz. *Si Jupiter ascendens Dominus cum intueatur felici radio, bonam fortunam, sanitatem, gaudium, & lucra, hominibus inprimis religiosi & honoratis, & extruuntur Ecclesie & oratoria, appetuntque homines studia sapientie & legum.* That is to say, If Jupiter be Lord of the Ascendant (as now he is) he denotes much prosperity and happiness, good fortune, health, soundness, good state of wit and memory, many glad tidings and riches, men and women subject to humanity, religion, for reputation and honour, to magnifie our Redcemer in many private assemblies, men much desire to read, and study after wisdom.

The Lord of the Ascendant being posited in the second house signifies, as viz. *Felix promittit, lucra multa, vitam speciosam:* Here is promise of much riches and happiness, and to live a godly life. Venus being in the second house signifies, *Fertilitatem & uberem proventum frugum, item affluentem & liberalem vitam.* Yet I see more happiness portended by the Moon her application to the two fortunes, to wit the Lord of the Ascendant, and his Lady, which is Venus by name; for the Moon is in conjunction with Jupiter on March 15 day at 2 a clock in the morning, Venus with the Moon on the 17 day at 5 in the morning; so that the first Planet the Moon applies to, after the Suns vernal ingress is Jupiter the Lord of the Ascendant, next Venus, then Mercury; see what *Origanus* saith in such a matter; *In anni & quattuor revolutionibus, aut thematibus lunationum, si luna five firma, &c. potens, sit in angulo, vel succedente domo dignitatibus, five debilis & cadens extra dignitates, applicuerit benefico alicui planete* Jupiter

*Jovis vel Veneris, significabitur status populi fortunatus, quo
lucta eidem accrescent, & abundabunt necessaria; vigebitque,
si applicuerit Jovis, justitia, pax, libertas; & Veneri erit bo-
latis, gaudium, frequentia connubiorum: In the Revolu-
tions of the year, and of the quarterly Ingresses, or in the
Theams of the several Lunations, if the Moon, whether
she be strong and potent in an Angle or succedent house,
and in her own dignities, or if she be in weak and cadent
without her dignities, and shall apply to any benevolent
Planer, viz. Jupiter or Venus, it signifieth the state and
condition of the people to be fortunate, whereby they
shall get wealth, and have abundance of all necessities;
and if this application be to Jupiter, justice, peace, and
liberty, shall flourish; If to Venus, there shall be mirth,
joy, and many marriages; these are significations of double
joys, but the Eclipse of the Sun happening in the year
1652. 29 day of March will single the joys.*

*Jupiter with Venus doth signifie, Agunt quidem juxta
naturam fortioris in themate, in genere vero serenitatem ef-
ferunt; in aqueis vero locis mites & lenes pluviae, & hoc cer-
tius si lunæ testimonium radio vel ☿ accesserit.*

A Table of the altitude of the Sun in the beginning
of each Sign at all houres of the day, calculated for
51 degrees, 30 minutes North latitude.

	Ref. noon.	Afr. noon.	♈	♉	♊	♋	♌	♍	♎	♏
			d. m.	d. m.	d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
	12		62.00	58.20	50. 0	38.30	27. 6	18.20	15.10	
11	1		59.44	56.30	48.12	36.56	25.42	17.10	13.58	
10	2		53.45	50.45	43.20	32.38	21.53	13.40	10.30	
9	3		45.30	43.10	36.10	26. 8	15.59	8.18	5.20	
8	4		36.40	34.12	27.30	18. 8	8.35	1.17		
7	5		27.16	25.00	18.20	9.21	0. 6			
6	6		18.10	15.46	9. 5					
5	7		9.36	7. 4						
4	8		1.39							

A Prognostication.

You may behold in this Table, that when the Sun's place is in the first point of Cancer, his Meridian height will be 62 degrees, in Gemini is 58 deg. 28 min. in Leo is the same degrees and minutes.

Suppose that when the Sun is in the first point of Aries or Libra, and you find the height of the Sun taken by the quadrant to be 38 deg. 30 min. and you would desire to know what a clock it is at that time, look in the foregoing Table under the Signs Aries and Libra, and you will find in the column under the title before and after noon to be 12, then you may conclude it is high noon.

Had it been that the Sun was but 36 deg. 56 min. high that day, then you may conclude to be a 11 of the clock, if it be in the forenoon; if it be in the afternoon it is 1 a clock.

Suppose you had observed the Sun to be 26 degrees, and 8 min. high in the same day, then it is 9 of the clock, if your observation be in the morning, but if it be in the afternoon, then it is 3 a clock, and so with the rest. At any time when the Sun is far remote from the first point of any Sign, take the proportional part, and the like for your altitude taken, when it will not concur with the altitude in the Table, so you will find the Sun's altitude above the horizon at any time.

Jackson. 1653.










A Table of the Azimuth of the Sun in the beginning of each Sign for all houres of the day, for the la- titude of 51 deg. 13 min.

Ref. no.	11	10	9	8	7	6	5	4
Afr. no.	1	2	3	4	5	6	7	8
Signes.	d. m.	d. m.	d. m.	d. m.	d. m.	d. m.	d. m.	d. m.
♊	61.41	38.00	22.00	8.5.0	3.11.20	14.40	25.30	37.00
♈	63.52	41.30	24.45	10.5.4	1. 00	12.12	23.25	
♉	67.10	47.30	31. 2	17.00	4. 3	6.52	18.12	
♊	70.00	53.25	37.56	24. 5	11. 22			
♈	72.30	58.00	43.40	30.25				
♉	74.20	60.55	47.49	35.00				
♊	75. 2	62. 1	49. 3					

When the Sun is in the first point in Cancer a 9 a clock before noon, or 3 a clock in the after noon, it is required the Suns Azimuth, which is 22 degr. 00 min. in the same houres in Leo and Gemini it is 24 deg. 45. min. as in like manner with the rest.

A

A Table of the Suns declination for every degree of the Ecliptrique.

degrees.				degrees.
	d. m.	d. m.	d. m.	
1	0.24	12.00	20.26	29
2	0.48	12.13	20.39	28
3	1. 2	12.33	20.49	27
4	1.35	12.54	21. 1	26
5	2.10	13.13	21.12	25
6	2.23	13.34	21.23	24
7	2.47	13.54	21.43	23
8	3.11	14.13	21.52	22
9	3.35	14.33	22. 2	21
10	3.58	14.52	22.10	20
11	4.23	15.11	22.18	19
12	4.45	15.29	22.26	18
13	5. 9	15.48	22.34	17
14	5.32	16. 6	22.40	16
15	6. 4	16.23	22.47	15
16	6.19	16.41	22.53	14
17	6.42	16.58	22.59	13
18	7. 5	17.15	23. 4	12
19	7. 8	17.32	23. 9	11
20	7.50	17.48	23.13	10
21	8.13	18. 4	23.17	9
22	8.35	18.19	23.20	8
23	9.10	18.35	23.33	7
24	9.21	18.50	23.25	6
25	9.42	19. 5	23.28	5
26	10. 4	19.19	23.29	4
27	10.26	19.33	23.30	3
28	10.48	19.47	23.30	2
29	11. 9	20.00	23.31	1
30	11.31	20.13	23.31	0
degrees.	d. m.	d. m.	d. m.	degrees.
				
				

The use of this Table.

This Table consisteth of 5 Columns, the first and last contain the degrees of the Signes that are placed in the head or foot thereof, that if you find the sign that the Sun is in at the head or foot of the Table, and the degrees in the first or last Column thereof, then at the intersection you will have the Suns declination.

Example.

Let the Suns place be 20 degrees in Taurus or Scorpio, to find the Suns declination, you must find Taurus or Scorpio in the head of the Table, and 20 degrees on the first Column, then guide your eye from τ til you come against 20 degr. there you shall finde 17 degr. and 48 m. the Suns declination when he is 20 deg. in τ or π .

Note if you find the Sign in the foot of the Table, you must find the degrees in the last Column.

This

Jackson. 1653

This Table is of much excellency for the calculating of divers propositions Astronomical ; for it being one of the three terms given in most Solar propositions, as viz.

Let the declination of the Sun, elevation of the Pole, and Suns almicanter be given, by which you shall finde viz.

The Suns meridian height.

The Suns place in the ecliptique.

The length of the day and night.

The hour of East and West.

The Azimuth of 6 a clock.

The Suns Azimuth.

The right Ascension.

The oblique Ascension.

The oblique Descension

The Ascensional difference.

The Amplitude.

The Semidiurnal arch.

Example with Illustrations.

Let there be given the Suns declination 20 degrees, and 14 m. then the suns place wil be the first point of Gemini.

Let there be given the elevation of the Pole 51 degrees 32 min.

Let there be given the Suns Almicanter 49 deg. which will stand as viz.

North	{	Declination	20 deg. 14 min.	}	given.
		Elevation	51 deg. 51 min.		
		Almicanter	49 deg 00 min.		

The first operation to find the Suns amplitude say,

As the compliment of the elevation of Pole 38 deg. 28 m.

To the Suns declination 20 d. 14 m.

So is the Radius 50 d.

To the amplitude 33 d. 47 m.

The second operation to find the ascensional difference say,

9.79383

9.53888

10.00000

9.74505

A Prognostication.

As Radius 90 d.
to the amplitude 33 d. 47
so is the elevation of the Pole 51 d. 32 m.
25 d. 48 m. to the ascensional difference upon a great
circle
Then subtract the declination from 90 and the remain-
der will be 69 d. 46 m. then say

If 69 d. 46 m. upon a great circle
will become 90 d. upon a little circle
what will 25 d. 48 m. upon a great circle
it will give the ascensional difference 27 d. 38 m. a lit-
tle circle
this 27 d. 38 m. converted into time will be 1 hour 50
min. so long time the Sun hath been above the horizon be-
fore 6 a clock.

The fourth operation is to find the Suns almicanter at
6 a clock, say

As Radius 90 d.
to the Suns declination 20 d. 14 m.
so is the elevation of the Pole 51 d. 32 m.
to the almicanter at 6 a clock 15 d. 43 m.

The fifth operation is to find when the Sun will be East
and West, say then,

As the elevation of the Pole 51 d. 32 m.
to the suns declination 20 d. 14 m.
so is the complement of the elevation of Pole
to the distance of the suns way from 6 a clock to East in
a great circle 15 d. 56 m.
then subtract the declination from Radius, and the re-
mainder will be 69 d. 46 m.
then say,

As 69 d. 46 m. upon a great circle
will give 90 d. upon a little circle
what will 15 d. 56 m. upon a great circle
it will give 17 d. 1 m. upon a little circle
this 17 d. 1 m. being converted into time will be 1 hour 8
m. so

Jackson. 1653.

m. so long time will the sun be after 6 a clock before he come to be ful East, and at night hee will be ful West 1 hour 8 m before 6 a clock

The seventh operation is to find the difference of the Almicanter given 49 d. and almicanter found at 6 a clock, which difference is found by the natural signs, as viz.

The sign of the almicanter given 49 d. 754790

The sign of the almicanter of 6 a clock 15.43. 270880

The difference of the almicanter 28.56. 483829

The eighth operation is to find how far the sun hath swerved from 6 a clock, whereby to know the hour of the day, say then

As the difference of the almicanter 28 d. 56 m. 9.86374
to the complement of the elevation of the Pole 38 d. 28 m.

9.79383

so is the Radius 90 d.

10.00000

so the distance the sun swerved from 6 a clock upon a great circle 30 d. 55 m.

898991

then subtract the suns declination from radius, then say in the ninth operation

If 69 d. 46 m. upon a great circle 997233

will become 90 d. upon a little circle 10 00000

what wil 50 d. 55 m. great circle become? 988999

which is 55 d. 49 m. a little circle 991766

this 55 d. 49 m. being converted into time will be 3 houres

43 m. which being added to 6 a clock, it will be 9.43. that

is to say, 9 a clock 43 m. after when the suns almican. was

49 deg. 1

The tenth operation is to find the Suns almicanter when he is East or West, say.

As the elevation of the Pole 51 d. 32 m.

to the Suns amplitude 33 d. 47 m.

so is the complement of the elevation 38 d. 28 m.

to the suns almicanter at East or West 26 d. 13 m.

which take from the almicanter given 49 d.

by the natural signs, as viz.

The

PROGNOSTICATION.

The almicanter of 49 d. 00 m. 75470
 The almicanter of 26 d. 13 m. 441766
 The remainder is 18. 14. 312943

Which is the almicanter made since the sun came from East.

The twelfth operation is to find the suns azimuth, say
 As the complement of the elevation of the Pole 38 d. 28 m.
 is to the almicanter since the sun came from East 18 d. 14 m.
 so is the elevation of the Pole 51 d. 32 m.
 to the suns azimuth upon a great circle 23 d. 11 m.
 then subtract 49 the almicanter given from radius, the remainder will be 41 degrees.

In the thirteenth operation say,

If 41 d. upon a great circle 9.81694
 will become 90 d. upon a little circle 10.00000
 what will 23 d. 11 m. upon a great circle 9.59513
 it will be the suns azimuth 36 d. 52 m. 9.77819

The fourteenth operation to find the suns place, as viz.

As the suns greatest declination 23 d 31 m. 960099
 to the declination in the point of the ecliptique 20 d.
 1 m. 953880
 so is radius 90 d. 10.000000

to the suns place 60 d. or II 993789

The fifteenth operation, finde the Suns right ascension, as viz.

As Radius 90 d. 10.00000
 to the tangent of the suns place 60 d. 10.23856
 so the cosign of the suns greatest declination 23 d. 31 m.
 9.96234
 to the tangent of the suns right ascension 57 d. 48 m.
 10.20090

To find the suns oblique ascension being he is in the Northern signs, subtract the ascensional difference 27 d. 38 m. which is found in the second operation from the suns right ascension 57 d. 48 m. and the remainder is 30 d. 10 m. which is the suns oblique ascension.

Jackson 1653

If the sun be in Southern signs adde.

To find the suns oblique descension the sun being in the Northern signs adde the ascensional difference to the right ascension, and it will give 85 d. 26 m. the suns oblique descension.

If the suns declination had been South you must then subtract.

To find the sun rising and setting, the length of the day and night.

To know the sun rising look in the second operation, where is the ascensional difference converted into time, which is 1 hour 50 m. that take from 6 a clock which will be the remainder 4. 10. that is to say, at 4 a clock ten min. after the sun will rise, which double will be 8 h. 20 m. the length of the night.

To find the sun setting adde 1 h. 50 m. to 6 a clock, and it will be 7 a clock 50 m. after; which being doubled, is 15 h. 40 m. the length of the day.

The Illustrated operations stands thus.

The suns declination North	20 d. 14 m.	} given.
The elevation of the Po'e is	51 d. 32 m.	
The suns almicanter is	49 d. 00 m.	
The suns meridian height is		58.42
The suns place in Gemini		00.00
The suns amplitude is		33.47
The suns ascensional difference is		27.38
The same converted into time is	hour	1.50
The suns almicanter at 6 a clock is		15.43
The difference of the almicanter is		28.56
The suns almicanter when he is East and West		26.13
The difference of the almicanter given 49 is		18 14
The suns azimuth at 6 a clock		12.56
The suns azimuth easterly		36.52
The degrees the sun swerved from 6 to East		17.01
The same converted into time is	hour	1.08
The degrees the sun swerved from 6 to the time of observation		

A Prognostication.

Observation is	55.49
The time converted into time is	hours 3.43
The sun rising is at	hours 4.10
The sun sets at	hours 7.56
The length of the day is	hours 13.49
The length of the night is	hours 8.20
The sun at East	hours 7.8
The sun at the point of East at	hours 7.8
The hour of the day is 9 a clock 43 min. after	hours 9.43
The suns right ascension is	51.48
The suns ascensional difference is	27.38
The suns oblique ascension is	30.10
The suns oblique descension is	84.26
The suns semidiurnal arch is	117.38
The suns diurnal arch is	235.16

How to calculate the Eclipse both Solar and Lunar for any place as- signed, for any time past,

present, or to come.

It is required to know if the Moon will be Eclipsed in February 1663: and if she be, the quantity and duration.

Place assigned.

Calculated for the Town of Litterworth in Leicestershire, whose Latitude is 52 deg. 36 min. and the Meridian differs from London 4 minutes.

To know if the Moon will be Eclipsed that month and year, first I find the opposition of the Sun and Moon that time as thus.

Time

Jackson 1653.

Time given.	f. d. m. se.	f. d. m. se.	
1601	9.19.58.34	7.7.33.29	
60	0.00.26.50	1.10.41.12	
2	11.29.31.20	8.18.46.5	
February	01.09.33.18	1.18.28.6	The middle
The middle motion of ☉	10.20.30.08	11.25.28.52	motion of ☾
Mid. motion of ☾ subtr.	11.25.28.52		
Distance of ☾ from ☉	10.25.01.16		
Semicircle subtr.	6.		
Dist. of ☾ from ☉ of ☉	4. 25. 1. 16		

This distance reduced into time, will be the true opposition of the Sun and Moon according to there middle motion, as, viz.

The distance of the Moon from opposition of the Sun is 4 f. 27 d. 1 m. 16 se.

	f. d. m. se.
days	4. 25. 1. 16
11	4. 14. 5. 54
hours	10 55. 28
21	10 40. 1
minutes	15. 21
30	15. 14
seconds	00. 07
13	

So that the mean opposition of the Sun and Moon in that year and moneth will happen 11 day, 21 houres, 26 min. 13 seconds p.m.

To find the true opposition of the Sun and Moon, I calculate to the time of the mean opposition the true place of the Sun and Moon, as, viz.

A Prognostication.

	☉ Longit.	☉ Apogeo	☉ Longit.	☉ Apogeo
Time given	f. d. m. se.	f. d. m. se.	f. d. m. se.	f. d. m. se.
1601	9.19.58.34	3.5.43.28	0.7.33.29	7.19.00.30
60	00.00.26.56	1.1.38	1.10.41.13	9.11.34.43
2	11.29.31.20	3.48.18.46	5	2.21.19.49
February	1.00.33.18	5	1.18.28	6
days 11	00.00.50.32	2	4.04.56.25	1.19.32
hours 21	51.45	0	11.31.46	5.51
minutes 26	1.4		14.16	7
seconds 13			7	1
Middle motion of ☉	11.02.13.29	3.6.47.27	5.02.11.26	7.25.41.45
Apogeo substra.	3.6.47.17		7.25.41.45	
The Anomilie of ☉	7.25.36.12		9.06.29.41	The Area
The mid. motion of ☉	11.2.13.29			mile of ☉
The Equation added	1.42.39			
The Suns place	11.3.56.05			
The Moons place	5.7.6.26			

The difference of Sun and Moons places I divide by the hourly motion of the Moon from the Sun, and remainder will be the intervall of time, that is to say, the time between the mean and true opposition of the Sun and Moon 6 hours, 27 min. 13 sec. and in regard the Moons place exceeds the Suns place in opposition, I subtract the interval of time from the mean opposition, as, viz.

The mean opposition in Anno 1683 in Febr. is 11 days, 2 hours, 30 min. 13 seconds, out of which subtract the interval of time 6 hours, 27 min. 13 sec. and remainder is 11 days, 15 hours, 3 minutes, 00 sec. with which corrected time I compute and examine the Sun and Moons places for the true opposition, as, viz.

	Longit. of ☉	Longit. of ☾	
	f. d. m. h.	f. d. m. h.	
Mid. motion of ☉	11.1.57.14	4.28.41.3	Mid. mo. of ☾
Apheliō of ☉ subst.	3.6.57.17	26.20.58	Aph. of ☾ sub.
Anomile of ☉	7.2459.57	y. 2. 2.10	Anomile of ☾
Equation of ☉ ad.	0.01.41.47	0.04.57.58	Equ. of ☾ ad.
Anom. of ☉ corq.	7.25.49.42	9.4.29.50	An. of ☾ corq.
True place of ☉	8.03.39.01	11.3.39.1	Tru place of ☾

Jackson. 1653.

I conclude, in the aforesaid year, moneth, day, hour, minute, The Sun and Moon will be in opposition; for the Suns true place will be Pisces, 3 deg. 39 min. 1 sec. and the Moons true place will be Virgo 13 deg. 39 min. 1 sec.

To find if the Moon will be eclipsed or nor.

If at any time the mean full Moon her place be distant from either of her nodes less than 15 degrees 12 minutes, either according, or contrary to the Succession of the Signs, that full Moon will suffer an eclipse.

Example, at the time of the middle of the full Moon before mentioned, in Febr. 1663. the 11 day 21 hour, 30 min. 13 sec. the middle place of the Moon is 5 s. 7 d. 6 m. 26 se. and her node ascending is 5. 1. 26. 22. So that between the Moons place and her node, is but 5 deg. 40 min. 4 sec. So I conclude that full Moon will be eclipsed.

The apparent time to be found.

I subtract the Equation of civil dayes 11 houres, 11 min. from the true opposition, the residue will be the apparent time 14 houres, 52 min.

The horisontal parallex of the ☉ 2 m. 21 se.

The horizontal parallex of the ☾ 57.53.

The hourly motion of the ☉ 2.31

The hourly motion of the ☾ 33.15

The semidiameter of the ☉ 16.38

The semidiameter of the ☾ 16.11

The apparent semidiameter of the Earths shadow is 43.36

The hourly motion of the ☉ from the ☾ 30.44

To find how many digis the Moon will be eclipsed.

The semidiameter of the Moon 16.11

And semidiameter of the Earths shadow 43.39

Both added together is 59.47

From which take the ☾ latitude 34.56

And the remainder will be 24.91

the parts deficient.

Then I make my proportional terms, as, viz.

If the Moons diameter 32 min. 22 se. will give 12 dig.

C 2

What

A Prognostication.

What will the parts deficient give 24 min. 31 se. and the work will be thus

⊙ Diameter	1942 se.	3288249
Digits	720 m.	2859332
Parts deficient	1494	3173477
	Agregate	6030809
		2742560

Digits eclipsed is $9 \frac{13}{60}$

So I conclude in Anno 1663, Feb. 11 day, 14 houres, 52 min. the quantity of the Moon will be eclipsed 9 digits, and $\frac{13}{60}$ parts of a digit.

To find the minutes and time of incidence, and the half tarriance or continuance of the Moon in the earths shadow, as viz.

The sum of the semidiameters of the Moon and earths shadow being reduced into sec.

The latitude of the Moon

	3587 m.
	<u>1093</u>
Agregate	5680
difference	1494

Or thus.

The aggregate 5680

The difference 1494

3754348

3174390

Sum 6928738

Minutes of incidence 48 m. 33 se.

half Sum 3464369

Having found 48 m. 33 se. the minutes of incidence, and half tarriance together.

Now find only the minutes of half tarriance, as viz.

The difference of the semidiameter of the Moon and earths shadow is

The Moons latitude is

The same being added together

the sum is

1645 se.

2093

3738

7 The

Jackson 1653

The sum 3738 3.572639

The difference 448 2.651278

The aggregate 62239.7

The semia aggregate 3131558

Which gives 1294 sc. or 21 min. 34 sc. the min. of the Moons half tarriance.

To find the time of incidence and half tarriance together.

I divide the minutes of incidence and half tarriance together 48 m. 33 sc. by the hourly motion of the Moon, for the Sun 30 min. and 44 sc. and the quotient giveth the time of incidence and half tarriance together to be 1 hour, 11 min. 36 sc.

Then I say, that the totall duration of the foresaid eclipse will be 2 houres 12 min.

To find how long time the Moon continueth in the earths shaddow.

In the performance hereof I divide the minutes of the half tarriance, 21 m. 34 sc. by the hourly motion, and the quotient will be 31 min. 45 sc. the time of her half continuance in the shaddow.

If you would know the latitude of the Moon at the beginning and end of the eclipse.

You must take the minutes of incidence and half tarriance together, and adde thereto the middle motion of the Sun agreeing to the time of incidence and half tarriance, the sum whereof take from the true motion of the Moons latitude at the time of the middle of the eclipse, and the remainder will be her latitude at the beginning of the eclipse.

Then do but adde the same to the true motion of her latitude at the time of the middle of the eclipse, and the aggregate will be the true latitude at the end of the eclipse. This done, you may describethe eclipse in a figure in plano.

The

A Prognostication.

The proportion of the bodies of the
Sphaers one to another

The Sun is	9 times greater than Saturn
The Sun is	14 times greater than Jupiter.
The Sun is	2535 times greater than Mars.
The Sun is	1270 times greater than Venus.
The Sun is	3705 times greater than Mercury.
The Sun is	1000 times greater than the Moon.
The Sun is	196 times greater than the Earth.
Saturn is	$\frac{1}{4}$ times greater than Jupiter.
Saturn is	286 times greater than Mars.
Saturn is	152 times greater than Venus.
Saturn is	418 times greater than Mercury.
Saturn is	1122 times greater than the Moon.
Saturn is	12 times greater than the Earth.
Jupiter is	182 times greater than Mars.
Jupiter is	84 times greater than Venus.
Jupiter is	266 times greater than Mercury.
Jupiter is	714 times greater than the Moon.
Jupiter is	14 times greater than the Earth.
Mars is	$1\frac{1}{2}$ times greater than Mercury.
Venus is	2 times greater than Mars.
Venus is	3 times greater than Mercury.
Moon is	13 times greater than Mars.
Moon is	6 times greater than Venus.
Moon is	19 times greater than Mercury.

The

Jackson. 1633.

The distance of the Planets amongst
themselves, and with the Firmament.

miles.

The Earth is distant frō the Firmamēt	49150720
Saturn is distant from the Firmament	127864480
Jupiter is distant from the Firm.	35425120
Mars is distant from the Firmament	47490640
The Sun is distant from the Firm.	44720000
The Moon is distant from the Firm.	48958080

miles.

Saturn is distant from Jupiter	23138640
Saturn is distant from Mars	29361440
Saturn is distant from the Sun	3193352
Saturn is distant from the Moon	36171600

miles.

Jupiter is distant from Mars	7722800
Jupiter is distant from the Sun	9294880
Jupiter is distant from the Moon	13532960

miles.

Mars is distant from the Sun	1572080
Mars is distant from the Moon	6310160

miles.

The Sun is distant from the Moon.	4238080
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Courteous

Courteous Reader,

IN London in Southwark, in Winchester-yard,
over against St. Mary Over-thees Church-door is
taught by me, Arithmetick in whole Numbers and
Fractions, &c. The Principles of Geometry with pra-
ctice and demonstration, and surveying of Lands, to
measure any superficial or solid content, to take the
height, depth, length, or breadth of things which being
encompassed with water cannot be approached unto.
The doctrine of Triangles, both Plane and Spherical,
with the use of the Signs, Tangents, Secants, and Lo-
garithms; a description, demonstration, and use of In-
struments, as also the Quadrant, Quadrant, Plane-scale,
Sextant, Theodolite, Plane-table, Cross-staff, horizon-
tal Spher, with the two Globes both Terrestrial and Ce-
lestial. Teaching Navigation, with making use of sun-
dry Instruments in fitting the Art of plain Sailing,
and Mercators projection, and to calculate the course
and distance of any two places in the World howsoever
situated, by Trigonometrical calculations. Teach
Astronomy, the working of any Proposition, soever, to
find or calculate the true time of the Conjunctions and
Oppositions of any Planets, for any time, past, present,
or to come; or any Proposition or Question that is pre-
scribed in this Almanack.

Yours, till I cease to be my own,

THO. JACKSON.

FINIS.